

FISCAL NOTE
Requested by Legislative Council
01/20/2015

Amendment to: Engrossed HB 1065

- 1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2013-2015 Biennium		2015-2017 Biennium		2017-2019 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

- 1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2013-2015 Biennium	2015-2017 Biennium	2017-2019 Biennium
Counties			
Cities			
School Districts			
Townships			

- 2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

This bill, as amended, calls for a legislative study to identify what laws may need to be changed to accommodate the introduction or testing of automated vehicles and any automated corridors affecting ND.

- B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

Since this bill has been amended to be only a call for a legislative study, there should be no direct fiscal impact beyond the costs associated with conducting the study. At this time we have no way to determine the costs that would be associated with conducting the study.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

- A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

- B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

- C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

Name: Shannon L. Sauer

Agency: NDDOT

Telephone: 328-4375

Date Prepared: 01/20/2015

FISCAL NOTE
Requested by Legislative Council
12/19/2014

Bill/Resolution No.: HB 1065

- 1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2013-2015 Biennium		2015-2017 Biennium		2017-2019 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

- 1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2013-2015 Biennium	2015-2017 Biennium	2017-2019 Biennium
Counties			
Cities			
School Districts			
Townships			

- 2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

This bill provides a number of provisions related to autonomous vehicles.

- B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

At this time we have no way to determine the fiscal impact that may result from this legislation.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

- A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*
- B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*
- C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

Name: Glenn Jackson

Agency: NDDOT

Telephone: 328-4792

Date Prepared: 01/06/2015

2015 HOUSE TRANSPORTATION

HB 1065

2015 HOUSE STANDING COMMITTEE MINUTES

Transportation Committee Fort Totten Room, State Capitol

HB 1065
1/9/2015
#21798

☐ Subcommittee
Conference Committee

Committee Clerk Signature

Jeannette Cook

Explanation or reason for introduction of bill/resolution:

A bill relating to autonomous vehicles

Minutes:

Attachments #1-7

The meeting was called to order by **Chairman Dan Ruby**.

Representative Ben Hanson testified in favor of HB 1065 and explained the bill. See attachment #1. (10:00 minutes)

Chairman Dan Ruby: This bill deals mostly with testing. Is this mostly to allow these vehicles to be on the roads, and is it completely up to Department of Transportation which roads will be used for the initial testing phase, and when this will happen?

Representative Ben Hanson: I feel the language in the bill allows Department of Transportation to do that. If they don't think so, I would be willing to specify that.

Chairman Dan Ruby: Do other states have standards in place that Department of Transportation can refer to? Or are will they develop them on their own?

Representative Ben Hanson: Yes, California, Nevada, Florida, Michigan, and few cities in Idaho, and the District of Columbia all do have rules pertaining to this. I did not include those intentionally because I wanted our Department of Transportation to have the decision making power to do it.

Representative Gary Paur: Are you agreeable to use the Hondas for testing purposes only?

Representative Ben Hanson: Yes.

Representative Gary Paur: You are creating a whole new chapter in Century Code. Would it make more sense to go under the previous 39-10.3 which deals with experimental vehicles?

Representative Ben Hanson : It sounds reasonable, but when I asked Legislative Council to draft legislation that would allow testing, this is what they came back with.

Representative Ben Hanson provided a letter from Honda that provides support and possible amendments for HB 1065. See attachments #3. He also submitted an amendment for consideration, 15.0167.01001. See attachment #2.

Rep. Thomas Beadle, District 27 spoke briefly to voice his support for this bill. He feels that this is taking place nationwide and once the regulations are in place it allows industry to start looking and developing the technology to go forward. We want to make sure that the lack of regulations will not stand as an obstacle as we move toward this additional technology on our roadways.

Dave Blair, represents Central North American Trade Corridor and KLJ Engineering, spoke to support HB 1065.

Dave Blair: At a transportation summit last year we brought up the idea of autonomous friendly corridor utilizing North Dakota as one of the states. We would like some legislation in place early on for looking at testing grounds in North Dakota. We have talked to Volvo and Peterbuilt about adopting a training ground and training facility here in North Dakota. There will be a national summit to bring in autonomous vehicles that will be hosted at BSC in May of 2015. We don't know how long it will take to implement this, but things are moving quickly. We think it would be good to have legislation in place, because industry will say that they want to be where something is already implemented.

Chairman Dan Ruby: Since there are so many other states that already have legislation in place, what is it about North Dakota that would want to make industry look at North Dakota?

Dave Blair: Probably because North Dakota is a rural state and a cold weather state. On the trucking side of things it may happen quicker than the vehicle side of things. They would want to make sure that the state wants to support this. Industry has told us that they would embrace having someplace in North Dakota as part of their testing grounds. There will have to be some sort of certification as well.

Chairman Dan Ruby: So, you think that North Dakota will just be added as another testing ground?

Dave Blair: Correct.

Jim Holm submitted testimony to support HB 1065. See attachments # 5 and #6.

There was no further supporting testimony at this time.

(26:00 minutes)

Glenn Jackson, Director, Driver's License Division, North Dakota Department of Transportation provided neutral testimony on HB 1065. See attachment # 4.

Chairman Dan Ruby: Was there a time frame in the bill?

Glenn Jackson: The only concern is if the bill is passed and implemented the first of August, will we be expected at that time to promulgate rules to comply with the law? We don't know what we would promulgate.

Representative Marvin Nelson: If I was driving down the highway today in North Dakota with a valid driver's license, would I be breaking any laws?

Glenn Jackson: Are you driving the vehicle?

Representative Marvin Nelson: I'm in control of the vehicle.

Glenn Jackson: I would assume that if you are in control of the vehicle, that you are responsible for any activity that takes place because of your actions driving the vehicle.

Representative Marvin Nelson: Would that be any different under this bill?

Glenn Jackson: If we endorse someone to drive a vehicle in an autonomous fashion, we have to be able to evaluate and measure the ability of the driver to react and to take actions to go from autonomous to non-autonomous state. We don't know how to do that, so we couldn't endorse that driver at this time. So, without an endorsement and you had an accident in which it was shown that you were operating a vehicle in an autonomous state, it would probably be bad for you.

Chairman Dan Ruby: In the bill it deals with a \$5,000,000 insurance, is that adequate?

Glenn Jackson: I do not know.

There was no further neutral testimony on HB 1065.

Mark Fields, Chief Executive Officer at Ford Motor Co. submitted testimony to oppose HB 1065. See attachment # 7.

There was no further testimony in opposition to HB 1065 at this time.

Matthew Larsgard, Automobile Dealers Association of North Dakota, presented and explained an amendment to HB 1065. See attachment #2. He stated that they simply want to exclude dealers from the liability in the event that they happen to retail a motor vehicle that has the autonomous technology.

The hearing was recessed on HB 1065 until Jan. 16, 2015 at 9:00 AM.

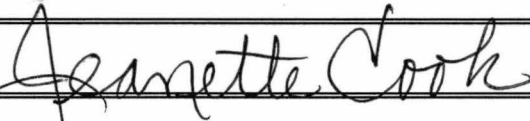
2015 HOUSE STANDING COMMITTEE MINUTES

Transportation Committee Fort Totten Room, State Capitol

HB 1065
1/16/2015
#22070

☐ Subcommittee
Conference Committee

Committee Clerk Signature



Explanation or reason for introduction of bill/resolution:

A bill relating to autonomous vehicles.

Minutes:

Attachments #1-8

The hearing on **HB 1065** was reopened by **Chairman Dan Ruby**.

Representative Ben Hanson: Reviewed the intent of HB 1065. He stated that the bill is an introduction of safety rules and regulations and allowance in the state of North Dakota to test autonomous/ self-driving vehicles. He provided amendment #15.0167.01001 dealing with dealer liability. (See attachment #1.) Amendment #15.0167.01002 was also distributed. (See attachment #2.)

Representative Lois Delmore: You stated that there will be transportation projects coming out of this. What role do you see these vehicles playing in projects across the state?

Representative Ben Hanson: There is a very exciting interstate corridor project being developed right now.

Representative Robert Frantzvog: What are the four states that already have legislation like this?

Representative Ben Hanson: Nevada, California, Florida, and Michigan. There are a few cities in Idaho and the District of Columbia.

Representative Chris Olson: Do you know how this bill compares with the laws in those other states?

Representative Ben Hanson: It is very similar.

Representative Chris Olson: Were you aware of the letter that had come from Ron Barns, the head of State Legislative Affairs, with Google?

Representative Ben Hanson: Yes.

Representative Chris Olson: Were you able to address any of the concerns that Google had in regards to the bill?

Representative Ben Hanson: Are there specific ones? There were quite a number

Representative Chris Olson: Maybe we could discuss that in committee discussion.

Chairman Dan Ruby: Does everyone have a copy of the letter from Google? We should have a copy of that in the records. (See attachment #8.) They are working on an autonomous vehicle that wouldn't have any operator. They were concerned that some of the regulation that may be put on by the Department of Transportation would hinder their ability to operate. Their suggestion was to wait until the National Transportation Safety Administration set up some national guidelines. Then have the states adopt their regulations after that to promote uniformity across the country. What are your thoughts on that?

Representative Ben Hanson: I don't think we are at that level yet. In what we are doing, I didn't think it was necessary to make sure that those vehicles were included yet.

Chairman Dan Ruby: Have you looked into speaking with the Department of Transportation, the County Association, or the League of Cities to see if they have the ability to approve a test stretch of road where a company could do testing of their vehicles without putting a new section into the code?

Representative Ben Hanson: I have not.

Representative Lois Delmore: Are they actually testing any of these vehicles in any of the states that you mentioned? Do they have test sites there?

Representative Ben Hanson: Yes, they do. In the states that I mentioned, they are working on autonomous vehicle corridors.

Chairman Dan Ruby: It says in the bill that before a person begins testing an autonomous vehicle on a highway within the state, the person must submit to the Department of Transportation proof of insurance. Would it be the person who is operating the vehicle, the owner, or who would have to be responsible for the insurance?

Representative Ben Hanson: My intent was to have the \$5 million bonding figure applied to companies that would want to test the technology in the state. For individual consumers, I don't know what that would be. This was set by looking at what other states have done. The level could be changed if we think other levels are appropriate.

Representative Rick C. Becker: If this bill doesn't pass, do our current laws prohibit testing?

Representative Ben Hanson: Our current laws don't address it. This would make sure that it is legally clear on the books.

Marlo Anderson, Central North American Trade Corridor Association spoke to support HB 1065. He provided written testimony. (See attachment #3.) The second page of testimony shows pictures of the dash of an autonomous vehicle that Mr. Anderson drove in Las Vegas on Jan. 9, 2015. He described the advanced state of the autonomous vehicles today. His group is mostly concerned with the transportation of cargo.

Vice Chairman Lisa Meier: If you are in an autonomous vehicle at an intersection, and then someone behind you runs a red light, what happens in an autonomous vehicle?

Marlo Anderson: It is interesting. If you look at the screen, it has an array of sensor beds that let the car "see" everything around it. The sensors constantly draw an image of what is happening. If someone runs a red light, the car stops. It takes aggressive action. The only job the car has is to drive, so it is not distracted by other things. It is probably dramatically safer than what we are doing right now.

Chairman Dan Ruby: I see the potential for an accident might be if the car responds quickly to a braking vehicle in front of it, and someone driving behind might not see it quickly enough.

Marlo Anderson: Yes, that is a possibility. Our long term goal would be to get vehicles that can haul freight without drivers. We have a shortfall of about 29,000 long haul drivers in the country right now.

Representative Lois Delmore: Did you need a special permit to drive the autonomous vehicle in Las Vegas?

Marlo Anderson: Last year I had a police escort. This year they had someone in the driver's seat, but the car drove itself.

Rep. Mark Owens: In Nevada they put a driver's license examiner in the car and certify the car.

Marlo Anderson: If a person would need to take control of the autonomous vehicle, there is just a quick button that turns it on and off.

Representative Marvin Nelson: Do you know if there has been much experimentation with autonomous vehicles in bad weather conditions, such as ice and snow or ground blizzards?

Marlo Anderson: I don't believe that they have extensively tested this. The camera uses the painted lines to draw the pictures on the screen in the car, so if the lines are not clearly visible, it may be a challenge. It is an opportunity for us in that respect because they want to test in those conditions. That will help them develop technology that will let that happen. We may have to put some sort of magnetic particles in the paint that would allow the vehicles to "see" the lines.

Representative Marvin Nelson: The type of technology that you saw, would not be able to handle a gravel road, correct?

Marlo Anderson: I can't answer that. It may be able to use GPS if the road has been mapped properly.

Vice Chairman Lisa Meier: If you are on the highway and the speed limit drops from 65 to 45 to 25, what would happen?

Marlo Anderson: You would be responsible, since it is your vehicle, but the car makes the adjustment because it sees the speed limit signs. We will eventually have to decide what types of things we are allowed to do inside the car. For example: are we allowed to text?

Representative Gary Paur: We just received an article about autonomous vehicles reading the signs, and they may sometimes have difficulty reading the sign because of a bullet hole or graffiti. Do you have a comment on that?

Marlo Anderson: If the car can't read the sign, it will use other information that is on board, such as GPS.

Representative Ben Hanson: Please describe the corridors that are being constructed in other states compared to the north/south corridor that you are proposing.

Marlo Anderson: Florida is looking at a short corridor. Michigan is also looking at a short corridor where they would allow so many vehicles in. California and Nevada laws are similar to what you are considering here. There is a high level of interest in this project. The companies want the ability to travel distances and participate in commerce. Those are some of the challenges that they have. They would like to be here for this purpose, the oil sector, and agriculture, as well. We just have to give some of these companies the reason to show up, and they will.

(35:30)

Larry White, Central North American Trade Corridor and The North Dakota Trade Office, spoke to support HB 1065. His main focus is looking at moving ag. products out of North Dakota as Agribusiness manager for the North Dakota Trade Office. There have been problems for the smaller processors in North Dakota to get a small number of cars to get their product moved, since the cars are in great demand. Some of them have had to wait as long as 70-80 days. Our country was set up on an east/west trade route and this has left the north/south neglected. There are a lot of ports to the south that are not over congested as they are in the west and east. If you can have an autonomous truck followed by 6 autonomous trucks, which are controlled by one person, this would be a good way for us to get product hauled without spending a lot of money to do it. When 80-90% of some of the commodities in North Dakota totally rely on export markets, you have to get it exported out of here. The bean industry and sunflower industry are suffering because we can't move commodities. Almost 100% of the cattle in North Dakota have to leave the state to be harvested. They have to be transported by truck. North Dakota is one of the most land-locked spots in the world. That is our problem, and we need a way to transport product more efficiently. We are looking to test these vehicles; it needs to be done. To be proactive is much better than to wait and see what the next person is going to do.

There was no further support for HB 1065.

(41:10)

Renee Wadsworth spoke on behalf of the **Alliance of Automobile Manufacturers** to express opposition to HB 1065. (See attachment #4.)

Renee Wadsworth: Georgia did a study last year that says, "While some states are rushing to implement new regulations and requirements on autonomous vehicle technology, committee testimony overwhelmingly cautioned against this trade action. To best promote the development of autonomous vehicle technology states should allow the market to further mature and grow without government intervention. Just as features such as cruise control and anti-braking systems were implemented as the market demanded them, so too can automobile technology continue to improve to the point of driverless cars."

I encourage you not to rush to government intervention to this important developing safety technology.

Chairman Dan Ruby: If one of the companies that you represent wanted to start testing, what would they do if they came to North Dakota to test in this climate? Who would they notify?

Renee Wadsworth: My understanding is that they would have to operate under existing law. It wouldn't prevent them from doing so. We understand that there is nothing in law that prohibits it.

Renee Wadsworth distributed the language for a study that the Auto Alliance would recommend. (See attachment # 5.)

Representative Rick C. Becker: Can you expound on the statement that you made, stating that regulation in some states has deterred development?

Renee Wadsworth: I will give you some background of how this came about. The first state to pass a law was Nevada. We were not involved in the process when they passed that law. We found it to be burdensome, we had to go back and get a legislative fix. It is not necessary to go down this path, and then come back and fix it later when you already have an open market here. Google was at first pushing this legislation in their home state of California. We opposed it for a long time because we didn't like the specifics about the bill. Everyone in the industry thinks that these regulations are a huge burden, and don't want to see this patchwork of state legislation around the country. Google has now also opposed all state regulation. That is why my members oppose all state regulation.

Representative Rick C. Becker: Can you give me more factual information as to how the regulation has deterred development?

Renee Wadsworth: I could get you a better explanation from the people who are actually working in those states. I don't handle the west coast. I would be happy to send you a follow up response to that question.

Representative Rick C. Becker: Are there states where development and testing were taking place and now it is no longer taking place, due to the regulations?

Renee Wadsworth: I don't have the answer to that question.

Representative Rick C. Becker: Is Honda in your alliance?

Renee Wadsworth: No.

Representative Marvin Nelson: Do you know of any automobile manufacturers that have tested in North Dakota?

Renee Wadsworth: No, I don't.

Tom Kelsch, lobbyist for General Motors in North Dakota, spoke to express the concerns of Brian D. O'Connell, Regional Director of State Government Relations, in opposition to HB 1065. (See attachment # 6.)

(54 min.)

Tom Kelsch: To answer a couple of questions, as I understand it, General Motors is staying away from testing in Nevada and California. The Michigan law doesn't have any restrictive regulations in it that would limit the testing in Michigan. General Motors doesn't have any actual testing facilities in North Dakota, but it is my understanding that the GM cars have traveled through the state. They do have facilities in Canada for cold weather testing. Currently these vehicles could be tested in North Dakota if a responsible driver is in the vehicle that could take over. By passing this legislation with these added restrictions, you would be encouraging companies NOT to come to the state.

We would urge a DO NOT PASS.

Chairman Dan Ruby: One thing that jumped out at me in Mr. O'Connell's testimony is the self-parking systems. We already have that. No one has talked about regulation for that, even though the car is driving itself. It is kind of the same thing, isn't it?

Tom Kelsch: Yes, that is the point of GM, that the automobile manufacturers have been able to develop those type of programs under the current laws that we have and don't need a special statute on automated vehicles to develop them. General Motors believes that this is the way automated vehicles will happen, by incremental changes providing additional safety features for vehicles prior to getting a fully automated vehicle.

(57:20)

There was no further testimony in opposition to HB 1065.

Previously **Glenn Jackson** has testified in a neutral capacity on HB 1065. He was called back to the podium to give additional information and answer questions.

Glenn Jackson, Director of the Driver's License Division for North Dakota Department of Transportation: In regard to the self-parking vehicles, they are legal and authorized for people to use. We have an issue with how to test them. Some states make the driver turn off the technology to verify their skills. Some people put tape over the cameras so they can't see behind them. Some states don't do anything and just let them

use the technology. We are discussing how to test the skill sets of the drivers. Looking at the statutes of other states, I think we could probably meet the same statutes that other states have implemented by August.

Representative Gary Paur: If someone were to offer a hog house amendment that would basically take the definition of the previous chapter, Experimental Vehicles, and just include "autonomous vehicles" and just leave the rest of this process under Experimental Vehicles, would that make any sense?

Glenn Jackson: I couldn't answer that without extensive research.

Chairman Dan Ruby: If some company was going to test autonomous vehicles in the state, is there something in place that would let them do that?

Glenn Jackson: If a company came to us to have authorization to test an autonomous vehicle in the state, we would have to sit down and find out what they require, and their time frame. We would have to understand fully what they want and need. We would have to talk with engineering, highway patrol, possibly the Attorney General's office, and then work with industry to see if we could meet that request in current statute.

Representative Chris Olson: In your opinion if a company was to perform a test from one end of the state to the other using an automated vehicle, is it your view that law enforcement within the state would have any grounds to charge them with something without any violations being committed?

Glenn Jackson: It is not against the law in North Dakota to operate an autonomous vehicle.

There was no further testimony on HB 1065.

The hearing was closed on HB 1065.

The committee took a ten minute break.

Chairman Dan Ruby called the committee back to order and committee discussion continued on HB 1065.

A motion was made by **Representative Ben Hanson** to adopt the two amendments (15.0167.01001 and 15.0167.01002).

The motion was seconded by **Representative Marvin Nelson**.
A voice vote was taken. All aye. Motion carried. (Vote sheet #1)

Representative Chris Olson: After hearing the testimony from so many interested parties that are involved with automated vehicles, my view of what the law is actually accomplishing has changed quite a bit, especially after hearing testimony from Glenn Jackson. He told us that there is no law currently prohibiting this type of testing. It seems to me that innovation is going to precede best in a non-regulated environment. Yet at the

same time, if a company is going to invest a billion dollars into testing or facilities in a particular area, then you want to know that your interests will be encouraged and recognized. I think that was the intent of the bill, to encourage these testing facilities that North Dakota recognizes and accepts and desires. But, it might be just as simple as to say that automated vehicles are legal in North Dakota and clarify who is liable in the event of an accident. Maybe it doesn't need to go any further than that to encourage testing in the state.

(1:10:00)

Chairman Dan Ruby: I appreciate the attempt to encourage and promote the testing in this area. I believe that was the goal. We should find a way that lets the manufacturers know that they are welcome here. I'm not sure that this bill does that.

Representative Robin Weisz: I think it is obvious that the manufactures know what the laws in the state. I'm not sure that it is necessary for the state to do anything. I don't see the need for the law now.

Representative Robin Weisz moved a DO NOT PASS on HB 1065.

Representative Gary Sukut seconded the motion.

Representative Ben Hanson: I'm sensing that the bill doesn't have the support to pass out of committee, but I still think it is an important issue. I would like to ask the maker of the motion to withdraw the motion in favor of the suggested study provided by Renee Wasdworth. (See attachment #5.)

Representative Robin Weisz withdrew the motion and Representative Gary Sukut withdrew the second. (See vote sheet #2)

Representative Ben Hanson asked to amend the bill fully into the suggested study. He would also like to include the automated friendly corridor that the Central North American Trade Corridor Association is taking a look at. (See attachment #7.)

Representative Robin Weisz moved the amendment. (15.0167.01003).

Vice Chairman Lisa Meier seconded the motion.

A voice vote was taken. All aye. Motion carried. (See vote sheet #3.)

Representative Robin Weisz moved an amendment to add "shall consider" to the study language in the amendment (15.0167.01003), and Representative Gary Sukut seconded the motion.

A voice vote was taken. All aye. Motion carried. (See vote sheet #4.)

Vice Chairman Lisa Meier moved a DO PASS on the amended bill HB 1065.

Representative Lois Delmore seconded the motion.

A roll call vote was taken. Aye 12 Nay 1 Absent 1

The motion carried. (See vote sheet #5.)

Representative Ben Hanson will carry HB 1065.

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 1, line 11, remove "without limitation."

Page 1, line 21, replace "must" with "shall"

Page 1, line 23, replace "\$5,000,000" with "five million dollars"

Page 2, line 2, replace "\$5,000,000" with "five million dollars"

Page 2, line 6, replace "which" with "that"

Page 2, after line 28 insert "1."

Page 3, after line 2, insert:

"2. The dealer that sells a motor vehicle that has been converted by a third party into an autonomous vehicle is not liable for damages to any person injured due to a defect caused by the conversion of the motor vehicle or by any equipment installed to facilitate the conversion unless the dealer performed the vehicle conversion."

Page 3, line 3, replace "regulations" with "rules"

Page 3, line 4, replace "regulations" with "rules"

Page 3, line 6, replace "regulations" with "rules"

Page 3, line 18, remove "must"

Page 3, line 18, after the second underscored comma insert "must"

Renumber accordingly

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 3, line 5, after "vehicles" insert "solely for testing purposes"

Page 3, line 11, remove "Establish minimum safety standards for autonomous vehicles and their operation."

Page 3, line 12, remove "d."

Page 3, line 12, after the underscored semicolon insert "and"

Page 3, remove line 13

Page 3, line 14, replace "f." with "d."

Page 3, line 14, remove "such"

Renumber accordingly

LAH
1-16-15

January 16, 2015

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of automated motor vehicles."

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY. During the 2015-16 interim, the legislative management shall consider studying what, if any, current laws need to be changed to accommodate the introduction or testing of automated motor vehicles in North Dakota and any automated corridors affecting North Dakota. "Automated motor vehicle" means a vehicle capable of operating in a full automation mode where full automation is defined by the Society of Automotive Engineers standard, J3016, section 5.6 issued January 2014, as the unconditional, full-time performance by an automated driving system of all aspects of the dynamic driving task. The study may include research into the degree that automated motor vehicles could reduce traffic fatalities and crashes by reducing or eliminating driver error and the degree that automated motor vehicles could reduce congestion and improve fuel economy through better utilization of existing highway capacity and more efficient operation of the vehicles' acceleration and braking controls. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-fifth legislative assembly."

Renumber accordingly

**2015 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1065**

House Transportation Committee

☐ Subcommittee

Amendment LC# or Description: 15.0167.01001 and 15.0167.01002

Recommendation: ☒ Adopt Amendment
 ☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
 ☐ As Amended ☐ Rerefer to Appropriations
 ☐ Place on Consent Calendar
Other Actions: ☐ Reconsider ☐ _____

Motion Made By Representative Ben Hanson Seconded By Representative Marvin Nelson

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby			Rep. Delmore		
Vice Chairman Meier			Rep. Hanson		
Rep. Rick Becker			Rep. Nelson		
Rep. Frantzvog					
Rep. Hawken					
Rep. Olson					
Rep. Owens					
Rep. Paur					
Rep. Schatz			VOICE VOTE - ALL AYE		
Rep. Sukut					
Rep. Weisz					

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

**2015 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1065**

House Transportation Committee

☐ Subcommittee

Amendment LC# or Description: 15.0167.01003

Recommendation: ☒ Adopt Amendment
☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar
Other Actions: ☐ Reconsider ☐ _____

Representative Ben
Motion Made By Hanson Seconded By Vice Chairman Lisa Meier

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby			Rep. Delmore		
Vice Chairman Meier			Rep. Hanson		
Rep. Rick Becker			Rep. Nelson		
Rep. Frantzvog					
Rep. Hawken					
Rep. Olson					
Rep. Owens					
Rep. Paur					
Rep. Schatz			VOICE VOTE - ALL AYE		
Rep. Sukut					
Rep. Weisz					

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent: Change the bill to a study and add study automated corridors that affect North Dakota.

**2015 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1065**

House Transportation Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☒ Adopt Amendment
Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar
Other Actions: ☐ Reconsider ☒ Further Amend

Motion Made By Representative Robin Weisz Seconded By Representative Gary Sukut

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby			Rep. Delmore		
Vice Chairman Meier			Rep. Hanson		
Rep. Rick Becker			Rep. Nelson		
Rep. Frantzvog					
Rep. Hawken					
Rep. Olson					
Rep. Owens					
Rep. Paur					
Rep. Schatz			VOICE VOTE - ALL AYE		
Rep. Sukut					
Rep. Weisz					

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent: Include "shall consider" to the amendment language. (#15.0167.01003)

**2015 HOUSE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. HB 1065**

House Transportation Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☒ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar
Other Actions: ☐ Reconsider ☐ _____

Motion Made By Vice Chairman Lisa Meier Seconded By Representative Lois Delmore

Representatives	Yes	No	Representatives	Yes	No
Chairman Ruby	X		Rep. Delmore	X	
Vice Chairman Meier	X		Rep. Hanson	X	
Rep. Rick Becker	X		Rep. Nelson	X	
Rep. Frantzvog	X				
Rep. Hawken	X				
Rep. Olson	X				
Rep. Owens	A				
Rep. Paur	X				
Rep. Schatz	X				
Rep. Sukut	X				
Rep. Weisz		X			

Total (Yes) 12 No 1

Absent 1

Floor Assignment Representative Ben Hanson

If the vote is on an amendment, briefly indicate intent

REPORT OF STANDING COMMITTEE

HB 1065: Transportation Committee (Rep. Ruby, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (12 YEAS, 1 NAYS, 1 ABSENT AND NOT VOTING). HB 1065 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of automated motor vehicles.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY. During the 2015-16 interim, the legislative management shall consider studying what, if any, current laws need to be changed to accommodate the introduction or testing of automated motor vehicles in North Dakota and any automated corridors affecting North Dakota. "Automated motor vehicle" means a vehicle capable of operating in a full automation mode where full automation is defined by the Society of Automotive Engineers standard, J3016, section 5.6 issued January 2014, as the unconditional, full-time performance by an automated driving system of all aspects of the dynamic driving task. The study may include research into the degree that automated motor vehicles could reduce traffic fatalities and crashes by reducing or eliminating driver error and the degree that automated motor vehicles could reduce congestion and improve fuel economy through better utilization of existing highway capacity and more efficient operation of the vehicles' acceleration and braking controls. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-fifth legislative assembly."

Renumber accordingly

2015 SENATE TRANSPORTATION

HB 1065

2015 SENATE STANDING COMMITTEE MINUTES

Transportation Committee Lewis and Clark Room, State Capitol

HB 1065
2/20/2015
Recording job number 24197

☐ Subcommittee ☐ Conference Committee

Committee Clerk Signature

Doris E. Perez

Explanation or reason for introduction of bill/resolution:

To provide for a legislative management study of automated motor vehicles

Minutes:

Attachment: 0

Chairman Oehlke opened the hearing on HB 1065, all committee members were present

Representative Ben Hanson, District 16, introduced the bill. Currently 4 states allow testing of self-driving programmable vehicles. This is the technology of the future, ND should join in. Five different classes of vehicles are being tested.

Senator Campbell: is this for commercial vehicles or primarily for automobiles? I think this is the future and I support it.

Rep Hanson: originally was to be for both, commercial and individual consumers, study will emphasize commercial vehicles, basically semis.

Marlo Anderson, Director, Central North American Trade Corridor (CNATD); the liability question is going to come exactly to where we are at now; if you own the vehicle you are liable. Basically there will be no changes in the liability structure we have now. There are estimates that we will see about a 90% reduction in road fatalities.

Senator Sinner what will be the cost? (At this time there is no idea what it will be)

Larry White, CNATD, landlocked state like ND, with the congestion of the railroad and the oil, we are looking to a north-south route with the two larger traders we have, Canada and Mexico. We need to look at the usefulness of this type of vehicle to move more products, and find access to ports. We need to find out its use in northern climates.

Senator Axness how will this be to cross a national border?

Larry White: to start with, there will be somebody to accompany the vehicle.

Senator Sinner asked about the current hold up in the ports on the west coast. **Mr. White** explained what the situation is. (16:49 - 19:25)

Chairman Oehlke asked about blizzard, whiteout, icy conditions, are these vehicles made for that too?

Larry White: I don't know for sure, testing needs to be done, and that is where we would fit.

Dave Blair, Director CNATD, KLJ employee. This is the technology of the future, like it or not it will be coming. We might as well prepare for it and be at the forefront of this new ideas and changes. (21:14 - 24:25)

No additional testimony for, against or neutral. Hearing closed.

2015 SENATE STANDING COMMITTEE MINUTES

Transportation Committee
Lewis and Clark Room, State Capitol

HB 1065
3/12/2015
Recording job number 24718

☐ Subcommittee

☐ Conference Committee

Committee Clerk Signature

Doug E. Pines

Explanation or reason for introduction of bill/resolution:

To provide for a legislative management study of automated motor vehicles.

Minutes:

Attachment: 0

Chairman Oehlke opened the discussion on HB 1065, all committee members, except Senator Campbell, were present.

Chairman Oehlke: this is the wave of the future; they should be tested in cold weather. Committee members agreed.

Senator Axness moved **DO PASS**

Senator Sinner **seconded** the motion

Roll call vote: Yes: 5 No: 0 Absent not voting: 1

Carrier: Chairman Oehlke

**2015 SENATE STANDING COMMITTEE
ROLL CALL VOTES
HOUSE BILL NO. 1065**

Senate TRANSPORTATION Committee

☐ Subcommittee

Amendment LC# or Description: _____

Recommendation: ☐ Adopt Amendment
☒ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐ _____

Motion Made By Senator Axness Seconded By Senator Sinner

Senators	Yes	No	Senators	Yes	No
Chairman Oehlke	X		Senator Axness	X	
Vice Chairman Casper	X		Senator Sinner	X	
Senator Campbell	Abs				
Senator Rust	X				

Total (Yes) 5 No 0

Absent not voting 1

Floor Assignment Chairman Oehlke

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1065, as engrossed: Transportation Committee (Sen. Oehlke, Chairman)
recommends **DO PASS** (5 YEAS, 0 NAYS, 1 ABSENT AND NOT VOTING).
Engrossed HB 1065 was placed on the Fourteenth order on the calendar.

2015 TESTIMONY

HB 1065

HB 1065

01-09-15

#1

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HB 1065 Testimony; Rep. Ben Hanson

House Committee on Transportation:

January 9th, 2015 testimony in regards to HB 1065; A BILL for an Act to create and enact chapter 39-10.4 of the North Dakota Century Code, relating to autonomous vehicles.

Mr. Chair, fellow committee members, for the record my name is Ben Hanson and I am a representative from District 16 in Fargo and West Fargo. I stand before you today to testify in favor HB 1065.

Autonomous vehicles or "self-driving cars"-they sound like something out of The Jetsons but I assure members of the committee that they are very real and are going to be a major factor in the global automobile industry in the near future. In 2010 Google revealed to the world that it had equipped and had been testing a Toyota Prius to run without a human being actively driving it. Its technology allowed the car to react in real time to traffic and weather conditions in northern California.

Jump ahead to 2015 and Google has announced it will unveil its first commercial driverless car in 2017* other major manufacturers have announced they will unveil theirs by 2020**.

This technology has wonderful implications for persons with disabilities and the elderly, in addition to the overall convenience and productivity boost it could provide those with long commutes.

But why should a state like North Dakota be looking into technology originally designed to un-congest traffic jams in Los Angeles? North Dakota has its share of aging drivers that could benefit as mentioned previously. It also has major truck traffic congestion, workforce shortage and bottlenecked shipping of its natural resources and agricultural product. There are semi-less semi's being developed as we speak. We have some gentlemen here today who are going to be talking about an inter-state autonomous-friendly corridor that could be extremely beneficial to multiple North Dakota industries. Additionally, we would become the first truly rural state to have this type of enabling legislation on the books, making us that much more attractive to become a testing center. We are already home to the second largest brick-and-mortar Amazon

HB 1065
1/9/15 #1

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and Microsoft campuses respectively and are now home to the UAV testing facilities in Grand Forks. Tech jobs are the jobs of the future and I feel we should be doing everything we can to make North Dakota a welcoming place to this industry.

I have also handed out some material from insurance industry expert Jim Holm detailing the cost savings that autonomous technology could provide businesses and individuals by reducing liability by as much as \$75 billion in the next 5 years.

While this all may sound good, I have a feeling members of the committee may be asking themselves: "Why now?" I feel we should get ahead of this. Predictions vary, but who is to say when a new form of technology will take off? The article provided to committee members quotes Ford CEO Mark Fields predicting these cars will be introduced within five years. The GM representatives I have spoken to have said they do not see it coming for another thirty years. No one would have predicted in 1999 the market saturation that mobile phones would have by 2004.

I hope I've established that this technology is a positive and inevitable innovation in our near future. Many of the implications are things we would like in North Dakota. So the true question becomes, do we need a law? Are regulations and perimeters necessary? I would argue 'yes.' Like any other business trying new things, these companies will want a consistent regulatory environment to play in. It is doubtful that one would consider North Dakota if there is threat of unseen, unfriendly rules to be made sometime in the future. Currently testing is occurring in the states that have passed this legislation due in large part, I feel, because the rules are set and companies don't have to worry about what the government is going to do "on the backend" of testing.

Amendments: The Automotive Dealers Alliance and Honda have both submitted concerns with the bill that require simple amendments I would be very amicable to. The Autodealers were able to get their amendments to me and I have submitted it to the committee. Honda was not able to in time but I will be working with council today get the changes they requested in their letter to me that you all have a copy of.

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#1

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*"Google's Sergey Brin: You'll ride in robot cars within 5 years" <http://www.cnet.com/news/googles-sergey-brin-youll-ride-in-robot-cars-within-5-years/>

**"Inside the Road Revolution" <http://www.fastcompany.com/3022489/innovation-agents/self-driving-cars-let-go-of-the-wheel>

HB1065
1/9/15 15.0167.01001
Title.

Prepared by the Legislative Council staff for
Representative Vigesaa
January 7, 2015

2

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 1, line 11, remove "without limitation."

Page 1, line 21, replace "must" with "shall"

Page 1, line 23, replace "\$5,000,000" with "five million dollars"

Page 2, line 2, replace "\$5,000,000" with "five million dollars"

Page 2, line 6, replace "which" with "that"

Page 2, after line 28 insert "1."

Page 3, after line 2, insert:

"2. The dealer that sells a motor vehicle that has been converted by a third party into an autonomous vehicle is not liable for damages to any person injured due to a defect caused by the conversion of the motor vehicle or by any equipment installed to facilitate the conversion unless the dealer performed the vehicle conversion."

Page 3, line 3, replace "regulations" with "rules"

Page 3, line 4, replace "regulations" with "rules"

Page 3, line 6, replace "regulations" with "rules"

Page 3, line 18, remove "must"

Page 3, line 18, after the second underscored comma insert "must"

Renumber accordingly

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1-9-15
#3

HONDA

Honda North America, Inc.
1001 G Street, N.W. Suite 950
Washington, D.C. 20001
Phone (202) 661-4400

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January 9, 2015

The Honorable Dan Ruby
House Transportation Committee
State Capitol
600 East Boulevard
Bismarck, ND 58505-0360

Re: Honda's position on HB 1065: Support with Amendments

Dear Chairman Ruby and members of the House Transportation Committee:

Thank you for your time and consideration of Honda's position on this important issue. Honda is developing and fully supports automated vehicle technologies that have the potential to make driving safer and more fuel efficient. We also recognize that this technology needs to be deployed safely, and appreciate Representative Hanson's desire to do so. While we support his intentions, we do have a few specific concerns with this bill and cannot support this legislation unless it is amended.

First, in **section 39-10.4-06; subsection 1** we respectfully request that the bill be amended to specify that the North Dakota Department of Transportation authorize the operation of autonomous vehicles on highways within the state **for testing purposes only**. The National Highway Traffic Safety Administration (NHTSA) the federal agency responsible for writing and enforcing federal motor vehicle safety standards does not recommend that states authorize the operation of self-driving vehicles for purposes other than testing at this time¹. NHTSA released this recommendation in order to help states ensure that any legislative efforts do not inadvertently impact current vehicle technology and that the testing of self-driving vehicles is conducted safely. This technology is still in its early development stages and authorizing the general operation of autonomous vehicles would be premature.

Second, we believe that **section 39-10.4-06 subsection 2-c** as currently drafted would not only place a huge burden on the North Dakota Department of Transportation, but would also create contradiction with NHTSA policy as well. NHTSA is currently conducting extensive research on autonomous and automated vehicle technologies and is preparing to establish standards for these vehicles when they become commercially available. Allowing individual states to establish their own standards would create a patchwork of inconsistent regulations that would hinder the deployment of this technology which has the potential to save lives and make vehicles more fuel efficient. We respectfully request that this section be removed, or that the words **"in concurrence with the National Highway Traffic Safety Administration"** be added to the end of the subsection on page 3 line 11.

1

<http://webcache.googleusercontent.com/search?q=cache:9KJSXQaQljEJ:www.nhtsa.gov/About%2BNHTSA/Press%2BReleases/U.S.%2BDepartment%2Bof%2BTransportation%2BReleases%2BPolicy%2Bon%2BAutomated%2BVehicle%2BDevelopment+&cd=1&hl=en&ct=clnk&gl=us>


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Finally, while we understand the intention of **section 39-10.4-06 subsection 2-e** is to reduce risk, we believe that it could discourage manufacturers from testing in North Dakota. Testing on public roads only occurs after extensive closed course testing has already been conducted, and is necessary to evaluate how the technology will perform in more challenging situations. We believe that any risk is eliminated by requiring a licensed driver to be in the vehicle and ready to take control of the vehicle at any time. Regardless of the use of this technology, the licensed driver would be responsible for the safe and lawful operation of the vehicle at all times.

Thank you again for your time and consideration of our position. Honda is committed to working with the state of North Dakota to ensure that this technology is deployed safely. North Dakota is home to 72 authorized Honda dealerships that employ 777 residents and provide North Dakota consumers with a wide range of products that utilize the latest environmental and safety technologies. In addition the American Honda Foundation has awarded philanthropic grants to community organizations in the state totaling over \$56,000. For more information on Honda's environmental and safety technology or our presence in North Dakota please visit our website, www.hondainamerica.com.

If you have any questions, or if Honda can otherwise be a resource to you please don't hesitate to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Craig Orlan".

Craig Orlan
State Relations Analyst
Honda North America, Inc.

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#4

1 of 2

HOUSE TRANSPORTATION COMMITTEE
January 9, 2015; 10:30 AM, Ft. Totten Room

North Dakota Department of Transportation
Glenn Jackson, Director, Driver's License Division
HB1065

Good Morning Mr. Chairman, members of the committee, I am Glenn Jackson, Director of the Driver's License Division at the North Dakota Department of Transportation (DOT). Thank you for giving me the opportunity to address you today.

HB1065 begins the discussion of a significant driver operation subject. Currently, the American Association of Motor Vehicle Administrators (AAMVA) is researching this topic. As the Chairman of the Driver Standing Committee for AAMVA, I have spent considerable time discussing the implications of this subject on drivers.

To put it bluntly, we are not ready to evaluate driving skills or license drivers using these vehicles in our system. There is research underway to help us understand how we will evaluate the skill sets necessary to safely manage these vehicles. A few of the questions being discussed are:

- Do we evaluate an applicant's ability to effectively manage technology? If so, how and what specific technology? If not, how do we validate their ability to effectively manage the system?
- Do we evaluate how well the applicant transitions from a non-autonomous environment to autonomous? Or from an autonomous to a non-autonomous?
- Do we cause autonomous system failure to test the applicant on reactions and response capability?
- How do we test these skills in such a way as to provide a measureable tool to evaluate the safety of the operator to utilize these systems in traffic and maintain safety for all users of the highway system?
- Do individuals driving autonomous vehicle need to demonstrate a full range of driver skills?

As you can tell, these questions reflect the concern that we get this right the first time to ensure all of our citizens are safe on the highway.

Also, we need to clarify insurance liability and driver behavior responsibility. Will the driver of an autonomous vehicle be held responsible for DUI if the vehicle is in an accident where the other vehicle was at fault, yet the driver of the autonomous vehicle is clearly inebriated? If the vehicle is operating in the autonomous mode and an accident occurs, is the individual responsible for insurance, or is the vehicle systems manufacturer responsible?

The department agrees we need to begin establishing regulatory steps to get ahead of this technology curve. However, it must be understood that the department is not close to establishing the ability to effectively regulate the operation of these vehicles. We are working on it in conjunction with other jurisdictions.

For these reasons, if you decide to proceed with this bill at this time we request sufficient time be granted to the DOT before requiring implementation to allow the DOT to address the issues identified above.

Lastly, a fiscal note was not provided, as it is too soon to estimate what our costs may be. We do not know if we will need additional technology to manage the program, nor do we know what type of training we may need, or whether we need additional staff in order to effectively manage this type of testing program. We will discover any costs as we work to fully understand how these systems/drivers are tested for safety on the highway.

Thank you Mr. Chairman, I would be happy to answer any questions.

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#5
1/7/2015

Dave -

The insurance industry is an empirical science filled with executives who are most comfortable getting their world perspective through a rearview mirror. The industry is scared silly by risk. Currently the amount of insurance being written in the U.S. is growing at a slower pace than the GNP. I think we can safely say the world is becoming "riskier" every day, so this phenomenon suggests the industry is gun-shy and not willing to move as fast as is required.

I've been in the industry since 1970 and have noted that the core of the industry has consistently been five to ten years behind the need. The NDIRF is a prime example. The insurance industry had thrown up its hands and walked away from hundreds of exposures in North Dakota -- or priced them at two to three times their true economic cost. We immediately reduced the rates being charged political subdivisions by about 50%. You might remember that the Wahpeton zoo had closed and the Bismarck zoo was about to, because they couldn't get insurance. Other entities that were threatened or had been shut down were: The UND Med School, the Leafy Spurge spraying operation, senior citizen's buses, many city and town boards, etc. It took me just 61 days to create and implement a permanent solution to that "unsolvable" problem. Because I included loss control engineering in that solution, NDIRF has reduced economic loss in North Dakota. Since 1986, NDIRF has saved North Dakota hundreds of \$millions.

Many believe the property and casualty insurance industry's auto premiums will shrink by about 50% when autonomous cars are fully implemented because of the reduction in risk. The vast majority of auto accidents are due to human error (or folly) and are avoidable with computer assistance. This has already been proven through automatic braking systems. I believe the reduction might be even more substantial.

The insurance industry seems to be locked into the considerations of product liability versus auto liability rather than seeing the much larger picture. Most of the attention in our industry is currently being placed on solving the problem of distracted driving ... which obviously will be solved by autonomous cars.

Dave, I'm 67. There are a lot of us "boomers" who will be making the roads more hazardous over the next several decades. Autonomous cars will be a tremendous force to improve the quality of life for the elderly - and those sharing the roads with them.

Being 67 has its advantages. I can remember when I-94 was built. The economic boon to North Dakota was amazing. Autonomous cars and trucks could have the same impact.

All of this makes autonomous cars inevitable and the insurance industry will be there when needed, but for now it is flummoxed and hoping the future comes slowly.

Jim Holm

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1-9-15
#6

FILED UNDER: AGENT BROKER, COVERAGE & POLICY ISSUES

What driverless cars could mean for the P&C industry

SEP 17, 2014 | BY JIM HOLM



Google's driverless car looks amusing, with its sensory equipment strapped to the roof, but the property and casualty insurance industry shouldn't smile. Google's car is getting most of the press, but the autonomous car industry is growing far beyond Google's efforts and should greatly reduce the risks involved in driving. The current \$200 billion in annual premium for commercial and private auto insurance in the United States could decrease over the next five years by as much as \$75 billion.

Recent Developments

The Nevada DMV put the Google car through a test to assess the car's performance in May of this year. The modified Toyota Prius passed the test almost immediately. It came out later that Google got to choose a course, set specifications about the road and weather, and Google's personnel had to take over the controls twice during the test. Given all that, proponents believe that the world will still change

<http://www.propertycasualty360.com/2014/09/17/what-driverless-cars-could-mean-for-the...> 9/19/2014

In January of this year, Morgan Stanley issued an estimate that the United States economy could save \$1.3 trillion by moving to autonomous (driverless) cars. Auto companies are installing automatic driving features. Driving aids are available to keep us in our lanes. Cars are already warning us of impending accidents, applying the brakes when we don't react quickly enough to avoid possible impacts, parking themselves, and have had automatic braking systems for decades. BMW already has driverless systems contained within its normal aerodynamic profile so that it doesn't look like something Disney designed. Some believe the cost per unit for this technology will be about \$3,000 in the near future.

Overall Cost Savings

Driver error is considered to be the main reason behind 90% of all crashes. The annual cost of crashes in the United States is said to be around \$300 billion. Even considering the 16% uninsured autos, given the annual cost of auto insurance \$300 billion appears overstated by more than double. Nonetheless, consider the main causes of accidents: alcohol, distracted driving, failure to stay in lanes, failure to yield right-of-way, erratic vehicle operation, over-correcting, drugs, and fatigue. It is obvious that an autonomous car might represent a reasonable alternative.

Even when factors such as mechanical failure, roadway, and the environment are causal it's extremely probable that speeding, distraction, and outright inattention could make an accident much more severe and more frequent. Estimates for insurance savings are as high as 50%.

Savings for the Trucking Industry

Just this last week, Peterbilt demonstrated its autonomous driving technologies. Bill Kahn of Peterbilt said, "The autonomous truck of the future is an extension of existing, individual systems already available for today's commercial vehicles." Peterbilt is a Texas manufacturer of medium and heavy-duty trucks.

In July, Daimler had a similar demonstration of their autonomous truck on German highways. They also showed a video of a man sitting passively in a truck while the vehicle easily managed to steer itself.

That video was fifty years old! Naysayers who attack the driverless vehicles as

When Morgan Stanley first released the report, it was widely ridiculed. But now, as the technology advances, it's becoming clear that the savings could be significant. The report estimated that the U.S. economy could save \$1.3 trillion by moving to autonomous cars. This is a massive figure, and it's one that has already been put into this transition.

The trucking industry is salivating over the \$168 billion Morgan Stanley has projected they can save annually. Part of this reduction in expense is due to projected savings on insurance premiums.

The trucking industry seems to think a large amount of savings will be realized simply by keeping trucks in service 24/7 instead of allowing them to sit idle while waiting for drivers who are restricted by hour regulations.

The Change to Autonomous Vehicles Will Happen Quickly

There are savings to be had, but can it happen in five years?

Also last week, in addition to the announcement in the trucking industry, GM stated it would have hands-free driving and vehicle-to-vehicle communication by 2016 in their Super Cruise Cadillac system. The system is designed to allow the car to take over in congested stop-and-go traffic.

Organizations such as Central North America Trade Corridor Association (CNATCA.com) are determined to move quickly. They believe that our current east/west shipping lanes need supplements. They've proposed an autonomous corridor on U.S. Highway 83 from Mexico extending to Alaska, which splits the nation north and south through the plains states.

Because of the impact of fracking in the Bakken oil field of western North Dakota, such a corridor is desperately needed. Oil transportation is disrupting the area's coal and grain shipments. Even a proposed new, electrified, double train track will not provide the freight volume needed.

"We believe the legislators in at least North and South Dakota will be receptive in this upcoming session to a proposal for testing semi-autonomous trucking along the corridor," said Marlo Anderson, spokesman for CNATCA. "Companies like Integrated Roadway are already building roads with sensors, with ice and snow melting equipment built in."

"Semi-autonomous trucking" involves convoys that are electronically tethered with a driver in the lead vehicle. Convoys would be formed outside congested areas. Before joining the convoy, and after the trucks arrive at destination ports, they could be either driven through congested areas to final destinations by remote control or by onboard drivers.

It is hard to imagine a person voluntarily relinquishing the pleasure involved in driving their private passenger car. I drove a fifteen-speed gravel truck as a summer job during college and thought it was fun. Yet, my days as an underwriter often made me wish long-haul truck drivers were a little less "fun-loving" and a lot more predictable. In retrospect, a driverless car seems like it might be an underwriter's dream.

As an underwriter I once read a large loss report about a driver we insured who had hit an overhead bridge with his refrigerated trailer while hauling fruit from Texas to Minnesota. I could understand the driver miscalculating the height of the bridge. However, I was a lot less understanding a month later, when that same driver hit that same bridge on the other side with a newly refurbished trailer.

"The average tractor costs about \$140,000," Dale Bergstrom of Erickson/Larsen general agency offered. Bergstrom has been underwriting long-haul risks for five decades. "A trailer can cost between \$40,000 and \$200,000. The average price for physical damage and liability insurance for the average unit currently runs about \$12,000 to \$15,000. I'm reserving judgment on the overall impact on premium of autonomous freight hauling. There's too much to shake out."

Issues to Solve

It's speculated that one of the problems with autonomous vehicles will be cargo coverage for unmanned units that are parked on the side of the road due to mechanical problems. That risk could be mitigated if the trucking industry has a fleet of pickups patrolling the freight corridors to provide protection.

Most experts indicate much more efficient fuel usage, but another problem suggested will be refueling. The corridors will probably have ports along the route, much like the current weigh stations, which are devoted to autonomous trucks.

Legal issues will be sorted. One issue might be the establishment of communal standards. What will take precedent in the computer's hierarchy when a collision with another vehicle is imminent? Will the computer opt to take action to preserve assets, or lives? And, if lives are considered a priority, at what dollar amount do assets prevail? These now clinical decisions will become quite emotional under tragic circumstances.

What do you think of the new PropertyCasualty360.com? <http://www.propertycasualty360.com/2014/09/17/what-driverless-cars-could-mean-for-the...> [Send Feedback](#)
Privacy is also a concern, but usage-based auto insurance pricing is already

Fait Accompli

We are already driving cars that have "driverless" features. Many experts believe that the more this trend broadens, fewer and less severe accidents will occur. Many obstacles have been overcome. States have acted already to approve the testing of driverless cars and more seem ready.

Our industry needs to prepare for the premium loss we will sustain, over the next very few years. Before too many tears are shed, we should consider that the premiums for freight delivery-drones will be huge and a new source of revenue.

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#7
Bloomberg

Ford CEO Fields Predicts Driverless Cars on Roads in 5 Years

By Keith Naughton - Jan 6, 2015

Ford Motor Co. (F) Chief Executive Officer Mark Fields said that an automaker probably will introduce a self-driving vehicle within half a decade, but it won't be his company, which is focusing on less expensive features that assist in driving.

"Fully autonomous vehicles are a real possibility," Fields said at a Jan. 5 dinner with analysts and journalists on the eve of the Consumer Electronics Show in Las Vegas. "Probably, in the next five years, you'll see somebody introduce autonomous vehicles."

Automakers are racing to develop self-driving cars that safely transport commuters in congested urban areas. At the same conference, Daimler AG (DAI) CEO Dieter Zetsche unveiled the Mercedes-Benz F 015, a concept car that can autonomously move people.

If Ford's forecast comes true, consumers may someday be able to buy a vehicle without a steering wheel or brake pedals that would operate in auto-pilot mode, driving more efficiently and reducing traffic jams. In the meantime, automakers are seeking a piece of the \$11.3 billion in factory-installed technologies going into cars this year, according to the Consumer Electronics Association.

The F 015 Mercedes concept car has four seats, including the driver's, that can face each other, rather than the road, Daimler said today in Las Vegas. Six screens allow passengers to monitor information about the vehicle and the outside world, using technology that responds to eye movements and gestures.

'Big Leap'

"We have a master plan in place to take the big leap required getting from technically feasible to commercially viable," Daimler's Zetsche said yesterday in Las Vegas. "The F 015 Luxury in Motion demonstrates where this may take us."

Instead of being the first to sell autonomous vehicles, Ford wants to "democratize" technology that assists drivers throughout its model line, offering it at prices even economy-car buyers can afford, Fields said. That includes features that can automatically park a car, steer it back into its lane and

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brake to avoid collisions.

"You can go into a dealership and get a Ford Focus that can park itself right now," Raj Nair, Ford's product development chief, said of the automaker's compact car that starts at \$16,810. "If you want to go to the full extreme -- full autonomy -- literally a vehicle that has no steering wheel and has no pedals, that's a tremendous technical challenge, but one that we believe that in the next five years will be possible."

General Motors Co. (GM) said in September it will introduce hands-free driving technology on a Cadillac in two years. GM CEO Mary Barra said at the time that having a car drive for you is "true luxury."

Crosstown Traffic

Self-driving cars will probably be found in densely populated urban areas that have been thoroughly digitally mapped so that the vehicles' sensors can read the road, other cars and the environment, Nair said. As more of the world's population moves into big cities, autonomous cars are aimed at reducing congestion because they could adjust for each other's speed differences more precisely, flowing through streets like schools of fish.

"The technology's capability of being better than any one of us as an individual driver is definitely on the horizon," Nair said. "It's not a matter of if, but when."

First, though, government regulators around the world need to come up with new rules of the road for vehicles that drive themselves, Fields said. Ford is already speaking with regulators to help them prepare for driverless cars, he said.

"The level of robustness that society and regulatory agencies are going to expect, that's another story," Nair said. "That's something we need to work on."

Megacity Mobility

A record 10 automakers are showing their wares at CES on an exhibit space the size of three football fields. In addition to self-driving cars, auto and tech companies are displaying dashboards covered in curved touch-screens, vehicles controlled by smartwatches and entertainment systems operated with a wave of the hand.

Ford is trying to make a business out of broader forms of mobility as it foresees a future where consumers buy fewer cars as they migrate into "megacities" of more than 10 million people, Fields said today in a speech at CES. The automaker has 25 research projects around the world looking at alternate mobility such as ride sharing, bike sharing and developing smartphone apps to find parking

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Ford CEO Fields Predicts Driverless Cars on Roads in 5 Years - Bloomberg

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in congested urban centers.

"We're doing a lot of experimentation," Fields told reporters after his speech. "We're doing these experiments to learn, 'Is there a business model in there for us?'"

To contact the reporter on this story: Keith Naughton in Las Vegas at knaughton3@bloomberg.net

To contact the editors responsible for this story: Jamie Butters at jbutters@bloomberg.net John Lear

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Prepared by the Legislative Council staff for
Representative Vigesaa
January 7, 2015

#1

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 1, line 11, remove "without limitation."

Page 1, line 21, replace "must" with "shall"

Page 1, line 23, replace "\$5,000,000" with "five million dollars"

Page 2, line 2, replace "\$5,000,000" with "five million dollars"

Page 2, line 6, replace "which" with "that"

Page 2, after line 28 insert "1."

Page 3, after line 2, insert:

"2. The dealer that sells a motor vehicle that has been converted by a third party into an autonomous vehicle is not liable for damages to any person injured due to a defect caused by the conversion of the motor vehicle or by any equipment installed to facilitate the conversion unless the dealer performed the vehicle conversion."

Page 3, line 3, replace "regulations" with "rules"

Page 3, line 4, replace "regulations" with "rules"

Page 3, line 6, replace "regulations" with "rules"

Page 3, line 18, remove "must"

Page 3, line 18, after the second underscored comma insert "must"

Renumber accordingly

#2

1-16-15

PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 3, line 5, after "vehicles" insert "solely for testing purposes"

Page 3, line 11, remove "Establish minimum safety standards for autonomous vehicles and their operation."

Page 3, line 12, remove "d."

Page 3, line 12, after the underscored semicolon insert "and"

Page 3, remove line 13

Page 3, line 14, replace "f." with "d."

Page 3, line 14, remove "such"

Renumber accordingly

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Autonomous Friendly Corridor

Prepared by Marlo Anderson for the
Central North American Trade Corridor Association

What are Autonomous Vehicles

Autonomous vehicles are referred to by a couple of different names including pilotless, driverless and unmanned. Grouped together, these vehicles are programmed to drive themselves from point A to point B with little to no human interaction.

Autonomous vehicles are generally referred to as land vehicles, but as technology moves forward, more air based vehicles such as drones will work autonomously as well.

The North /South Commerce Dilemma

One of the issues with the middle part of the United States reaching into Canada is the lack of north / south avenues to move commerce. Rail moves east / west. Most of our major roads move east / west as well. So the challenge is to find ways to better utilize our north/south routes.

The Vision

The Central North American Trade Corridor association wants to embrace emerging technologies to facilitate better use of existing roadways as well as airspace. The Autonomous Friendly Corridor would be such a space, allowing someone to program a vehicle in Texas to deliver goods to Minot, North Dakota. Here is an example of how it would work.

Autonomous vehicle gets instructions and departs to destination. Vehicle can stop at any of the established "Land Ports" along the corridor. Fueling stations, cargo disbursement and vehicle service are some of the functions that will be available at land ports. Vehicle arrives at destination, cargo is removed, new cargo is loaded and is given a new job.

The corridor will also be available for drones that are designed for commerce. Areas for drones to land will be available at the land ports. Support services for drones will also be available.

Autonomous vehicles will make much better use of our current infrastructure. With the shortage of long haul drivers, safety concerns and scheduling issues, autonomous vehicles seem like a logical choice.

Someday in the future, this will be commonplace. Let's set the standard and allow this technology to flourish in a way that can have a direct economic impact in our region.



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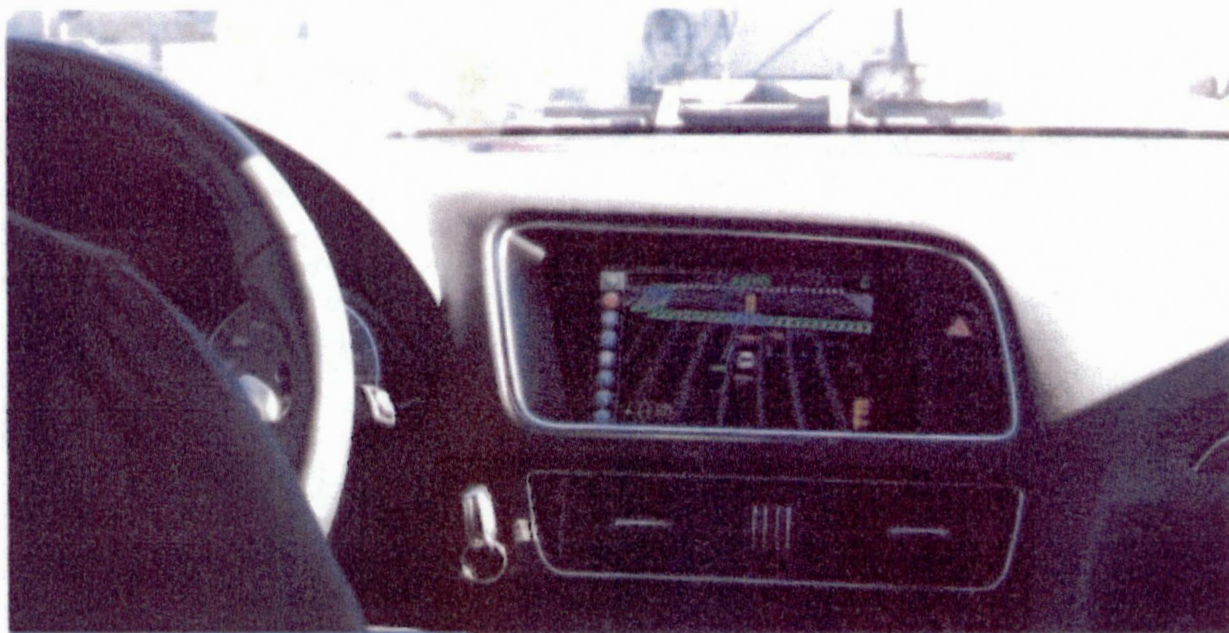
Autonomous Friendly Corridor

www.CNATCA.com



Delphi Display Screen in Audi.

The screen aggregates information sent from various sensors as well as onboard GPS.



Driving autonomously on the streets of Las Vegas - January 9, 2015

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#4

10f2



AUTO ALLIANCE

DRIVING INNOVATION®

January 13, 2015

Chairman Dan Ruby
North Dakota State Capitol
Bismarck, ND 58501

RE: House Bill 1065 - An Act Relative to Autonomous Vehicles

Dear Chairman Ruby:

I am writing on behalf of the Alliance of Automobile Manufacturers to express our opposition to House Bill 1065, relative to "autonomous vehicles." The Alliance is a trade association of twelve car and light truck manufacturers, comprised of BMW Group, FCA US, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota, Volkswagen Group of America, and Volvo Cars.

While the idea of automating the operation of vehicles (hereafter automated driving) may still seem to some like a concept ripped out of the latest science fiction movie, within the industry the idea of using advanced technology to produce ever safer and more fuel efficient vehicles is nothing new. Driver assist systems and crash avoidance technologies are already helping to pave the way for automated driving in the future. Auto manufacturers' investment in these technologies has brought us to a place where semi-automated vehicle subsystems such as electronic stability control, lane monitoring, and automatic cruise control, are commonplace in today's vehicles. Further automation of vehicle subsystems, including technology that can "drive" the vehicle, is nothing more than the next step on the continuum.

While we appreciate Representative Hanson's intent to foster a climate of innovation and to open North Dakota's borders to technological investment, we see this legislation as unnecessary. We are aware of no state law that would preclude the testing or operation of "autonomous vehicles" on public roadways today. In the absence of a law precluding the activities discussed in the bill, we see no need for permissive legislation. From an auto manufacturer perspective, we have all the laws necessary to continue to advance the research and development of automated driving technology in a safe, responsible manner.

Alliance of Automobile Manufacturers

BMW Group • Fiat Chrysler Automobiles • Ford Motor Company • General Motors Company • Jaguar Land Rover • Mazda • Mercedes-Benz USA • Mitsubishi Motors • Porsche • Toyota • Volkswagen • Volvo

803 7th Street N.W., Suite 300, Washington, DC 20001 • Phone 202.326.5500 • Fax 202.326.5567

www.autoalliance.org

As the National Highway Traffic Safety Administration's Preliminary Statement of Policy Concerning Automated Vehicles (issued May 2013) correctly noted, states should proceed cautiously with any legislation in this area or risk impeding the development of this exciting new technology.

Thank you in advance for your consideration of the Alliance's position. Please do not hesitate to contact me with questions or if I may provide additional information.

Sincerely,



Renee Wadsworth

Senior Manager of State Government Affairs

CC: Members, House Committee on Transportation

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PROPOSED AMENDMENTS TO HOUSE BILL NO. 1065

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of autonomous vehicles.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY – AUTONOMOUS VEHICLES.

WHEREAS, "automated motor vehicle" means a vehicle capable of operating in a full automation mode where full automation is defined by the Society of Automotive Engineers standard, J3016, section 5.6 issued January 2014 as the unconditional, full-time performance by an automated driving system of all aspects of the dynamic driving task under, at minimum, all roadway and environmental conditions that can be managed by a human driver, including the ability to automatically bring the motor vehicle into a minimal risk condition in the event of a critical vehicle or system failure, or other emergency event; and

WHEREAS, significant advances have been and are quickly being made in technology relevant to automated motor vehicles with numerous major companies and research organizations developing working prototype automated motor vehicles; and

WHEREAS, automated motor vehicles could significantly reduce traffic fatalities and crashes by reducing or eliminating driver error, which is a contributing factor in over ninety percent of all crashes; and

WHEREAS, automated motor vehicles could reduce congestion and improve fuel economy through better utilization of existing highway capacity and more efficient operation of the vehicle's acceleration and braking controls;

NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE OF REPRESENTATIVES OF NORTH DAKOTA, THE SENATE CONCURRING THEREIN:

That the Legislative Management study what, if any, current laws need to be changed to accommodate the introduction or testing of such vehicles in North Dakota.

BE IT FURTHER RESOLVED, that the Legislative Management report its findings and recommendations, together with any legislation required to implement the recommendations, to the Sixty-fifth Legislative Assembly.

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#6

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Brian D. O'Connell
Regional Director
State Government Relations

General Motors
124 W. Allegan St.
Suite 1420
Lansing, MI 48933
Phone: 517-377-2077
Fax: 517-377-5369

January 15, 2015

The Honorable Dan Ruby
Chairman, House Transportation Committee
North Dakota Assembly

Dear Chairman Ruby and Members of the House Transportation Committee:

I am writing on behalf of General Motors Company (GM) to express our opposition to House Bill 1065, an Act relative to Autonomous Vehicles.

Current driver assist systems and crash avoidance technologies are helping to pave the way for the automated vehicles of the future. Auto manufacturers' invest in the billions of dollars on advanced technologies and have brought us to a place where active safety systems such as adaptive cruise control, electronic stability control, lane keeping assist, lane departure warning, and self-parking systems, are becoming more common in today's vehicles. Automated vehicle technologies are largely a step on the continuum of advanced safety features, but fully automated or autonomous systems, where the driver does not play a role in operating the vehicle, are a significant distance into the future.

While I appreciate the sponsor's intent to foster a climate of innovation within the state, we have seen similar bills in other states be enacted and the results have had the opposite effect. Our development teams will avoid states with complex, restrictive and unreasonable restrictions. In HB 1065 we have issues with several sections of this document ranging from how autonomous technology is defined (the preferred industry term is automated not autonomous) to the department regulations to authorize operation of automated vehicles. Regulation of technologies that are in their early development is nearly an impossible task and is premature at this time. From an auto manufacturer perspective, we have all the laws necessary to continue to advance the understanding of automated technology in a safe, responsible manner. To best promote

the development of automated vehicle technology states should allow the market to further mature and grow without government intervention.

As the National Highway Traffic Safety Administration's (NHTSA) Preliminary Statement of Policy Concerning Automated Vehicles (issued May 2013) correctly noted, states should proceed cautiously with any legislation in this area or risk impeding the development of this exciting new technology. NHTSA is likely going to be the authority on this technology with respect to safety and is currently conducting research with industry, universities and organizations like the Society of Automotive Engineers (SAE) to understand where future standards may be needed. NHTSA has ongoing research work to help understand potential hazards around various types of automated systems.

While we oppose states developing regulations around vehicle safety requirements and in this case those focused on automated technologies we would offer an alternative. States should consider forming a study committee to monitor the research work being done with NHTSA and others and evaluate and understand potential safety issues around automated vehicle technology. There are many issues with this bill and we are always willing to act as an industry representative to discuss automated technology with you. However, we need to make it clear this bill would have a chilling effect in the marketplace and would hamper the continued development of automated technology.

Thank you for this opportunity to provide written testimony and I look forward to working with you, the sponsor or members of your committee regarding any questions you may have.

Sincerely,

Brian O'Connell
Regional Director, State Government Relations

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#7

REPORT OF STANDING COMMITTEE

HB 1065: Transportation Committee (Rep. Ruby, Chairman) recommends AMENDMENTS AS FOLLOWS and when so amended, recommends **DO PASS** (12 YEAS, 1 NAYS, 1 ABSENT AND NOT VOTING). HB 1065 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of automated motor vehicles.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY. During the 2015-16 interim, the legislative management shall consider studying what, if any, current laws need to be changed to accommodate the introduction or testing of automated motor vehicles in North Dakota and any automated corridors affecting North Dakota. "Automated motor vehicle" means a vehicle capable of operating in a full automation mode where full automation is defined by the Society of Automotive Engineers standard, J3016, section 5.6 issued January 2014, as the unconditional, full-time performance by an automated driving system of all aspects of the dynamic driving task. The study may include research into the degree that automated motor vehicles could reduce traffic fatalities and crashes by reducing or eliminating driver error and the degree that automated motor vehicles could reduce congestion and improve fuel economy through better utilization of existing highway capacity and more efficient operation of the vehicles' acceleration and braking controls. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-fifth legislative assembly."

Renumber accordingly

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1-16-15

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25 Massachusetts Ave., NW
Washington, DC 20001
Phone: 202-346-1100

January 13, 2015

Representative Dan Ruby
Chairman, House Transportation Committee
4620 46th Avenue NW
Minot, ND 58703-8711

Dear Mr. Chairman:

Google appreciates North Dakota's interest in autonomous vehicles (AV) and presumably encouraging development of AV technology. Unfortunately, HB 1065 limits AV technology development too much and imposes questionable requirements that could cause problems down the road. Though significant advances are being made, AV technology is still in the early stages of development. As such, any legislative or regulatory requirements imposed now risk being overtaken by advancements in the technology or stifling that advancement.

The bill seems to presume that the "operator" will always be in the vehicle and that the vehicle will always have a manual method for control. This is not and likely will not always be the case. Just this past spring Google introduced a prototype fully autonomous vehicle that offers no manual control and the only inputs available to occupants are pressing a button to go or to stop¹. Requirements that the vehicle provide a mechanism for the occupant to take immediate manual control, for example, are unnecessarily limiting and counter to the potential of this type of vehicle.

HB 1065 also seems to presume that all autonomous vehicles will have the same design and functionality of current non-AV cars in prohibiting "operation" of an autonomous vehicle without a driver's license endorsement. This would preclude accommodating vehicles with no driver, such as the new Google car. It is unclear why or to what end a driver's license endorsement would be needed. For certain populations like the elderly or people with disabilities who may not otherwise be able to obtain a driver's license, an endorsement requirement would remove the potential benefits AV technology could provide. Further, the language would restrict anyone not possessing an endorsement from operating a vehicle that is equipped with AV technology even if the AV mode is not engaged. Such a mandate could pose a safety issue since non-endorsed drivers would be prohibited from operating the vehicle, such as in an emergency situations like transporting a family member to a hospital, even if they are not operating the vehicle in non-autonomous mode.

The bill also may set up a conflict with interstate movement of vehicles. If North Dakota

¹ See <http://googleblog.blogspot.com/2014/05/just-press-go-designing-self-driving.html>

requires a license endorsement for "operation" of an autonomous vehicle, then AV drivers entering North Dakota from other states or those only transiting through could be prevented from using their vehicles.

Perhaps the most concerning part of the bill is the virtually unlimited authority conferred on the Department of Transportation to write regulations governing testing, operations or "any other requirements" deemed necessary. The bill gives only limited guidance or boundaries as to what these regulations could or should cover. To the extent that any regulations begin to prescribe technological mandates they would be premature.

That states are eager to encourage autonomous vehicle technology is appreciated. However, preemptively imposing laws and regulations on technology that is still in a nascent stage sends the wrong signal. I would be happy to speak with you further about Google's work on AV technology and our specific concerns about the bill.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Barnes", written in a cursive style.

Ron Barnes
Head of State Legislative Affairs

cc: Members of the House Transportation Committee